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Government versus private ownership of public goods: The role of bargaining frictions☆

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ABSTRACT

The government and a non-governmental organization (NGO) can invest in the provision of a public good. Who should be the owner of the public project? In an incomplete contracting model in which ex post negotiations are without frictions, the party that values the public good most should be the owner, regardless of technological aspects. However, under the plausible assumption that there are bargaining frictions, the optimal ownership structure depends on technological aspects and on the parties' valuations. We show that the differences between incomplete contracting models with public goods and private goods are thus smaller than has previously been thought.

1. Introduction

Public goods are often produced by partners who care about the benefits of the public good. The partners may be different public entities (say, federal and local government agencies), or there may be a "public–private partnership" in which the responsibility for the delivery of public goods and services is shared between the state and the private sector. Following Besley and Ghatak (2001), as a lead example we consider a partnership between the government and an NGO which directly cares about a public project. Should the government or the NGO own the public project? In this paper, we provide a new perspective on how ownership matters in public good provision when contracts are incomplete. Specifically, we argue that in the presence of bargaining frictions the qualitative differences between incomplete contracting models with public goods and private goods may actually be smaller than has previously been thought.

It is by now widely appreciated that the property rights theory based on incomplete contracting, which has been developed in the seminal contributions by Grossman and Hart (1986), Hart and Moore (1990), and Hart (1995), provides a very useful framework for investigating the implications of ownership allocations in various contexts.[1] Specifically, consider two parties that at some future date 2 can collaborate to generate a surplus. Collaboration cannot be contractually specified before date 2. At date 1, the parties have to make relationship-specific investment decisions. Ownership determines the parties' default payoffs (i.e., what the parties would get if they did not collaborate at date 2). In the property rights theory, it is usually assumed that at date 2 there are no frictions at all, so negotiations always lead to ex post efficiency, regardless of the ownership structure. Specifically, the date-2 negotiations are modelled by the Nash bargaining solution. Ownership matters, because it increases (the owner's default payoff and hence) the fraction of the collaboration surplus that the owner will get at date 2, thereby improving the owner's investment incentives at date 1. As a consequence, the optimal ownership structure depends on the investment technology. In particular, the party whose investments are more

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[1] See Segal and Whinston (2013) for a comprehensive survey of the literature on property rights. Legros and Newman (2014) provide a recent literature review with a focus on applications in the field of industrial organization.

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important should be the owner, and joint asset ownership (where each party has veto power) is suboptimal.

The standard property rights theory was motivated by the analysis of the pros and cons of vertical integration and has thus been developed in a private-good framework. In an important contribution, Besley and Ghatak (2001) have pointed out that the conclusions of the standard property rights theory do no longer hold in the context of public goods. They explore whether the government or an NGO should own the physical assets needed to provide a public good, and they show that the party who values the public good most should always be the owner, regardless of the investment technology.

In the present paper, we reconsider Besley and Ghatak's (2001) public-good setting. However, while they assume that there are no bargaining frictions at date 2, we allow for ex post inefficiencies. Indeed, also Besley and Ghatak (2001, p. 1348) acknowledge that a "model with contracting imperfections" is actually "more realistic" than a model with frictionless contracting. Yet, as in the standard property rights theory, they assume that contracting imperfections exist only ex ante, but not ex post.

In the real world, frictionless bargaining is hard to imagine,[2] and negotiations between the government and an NGO may well fail. For example, consider the recent case of Relationships Aotearoa (RA), a not-for-profit organization with charitable status, which used to be New Zealand's largest professional counselling and family therapy provider. In 2013–2014, the organization delivered more than 50,000 counselling hours to more than 27,000 people, dealing with issues such as parenting, family conflict, and domestic violence. The organization also provided professional training, supervision, and mediation for people working in demanding workplaces.[3] RA has closed on June 9, 2015. Negotiations between RA and government agencies failed two weeks earlier. According to RA, the Ministry of Social Development broke good faith provisions,[4] while the Social Development Minister Anne Tolley claimed that RA were "the ones who pulled out of negotiations."[5] RA Spokesperson Cary Hayward argued that "the government was wanting a Rolls Royce service on a Morris Minor fee," while Tolley said that RA "had a pretty unstable chief executive role, four chief executives in a short period of time, I don't think that helps any organisation, specially when they're at a time of change."[6] The example illustrates that ex post haggling and frictions in the sense of Williamson (1985) may well lead to a bargaining breakdown between government and NGO.[7]

Indeed, several authors such as Holmström and Roberts (1998) and Williamson (2000) have criticized the standard property rights theory for neglecting the possibility of ex post inefficiencies. Yet, we will show that the introduction of ex post bargaining frictions does not qualitatively change the central conclusions of the standard property rights theory in the private-good framework. In contrast, in the public-good context, Besley and Ghatak's (2001) finding is not robust once we allow for date-2 bargaining frictions.

Specifically, we introduce a friction parameter $\rho \in (0, 1]$, such that the share $1 - \rho$ of the additional surplus that can be generated by the date-2 negotiations will not be realized.[8] Thus, given risk-neutrality, the simplest interpretation of our model is that an ex post efficient agreement is reached with probability ρ, while there is an ex post inefficient bargaining breakdown with probability $1 - \rho$.[9] As a consequence, in the presence of frictions the optimal ownership structure is no longer entirely determined by investment incentives, but it also depends on the size of the deadweight loss in the date-2 bargaining stage. We show that for every $\rho < 1$, there are situations in which ownership of the public good should reside with the party that has a technological advantage, even if the other party has a larger valuation of the public good. Hence, our findings show that when contracting imperfections are also present ex post, then the main conclusions of the original property rights theory as developed by Grossman and Hart (1986), Hart and Moore (1990), and Hart (1995) also have bite in the context of public goods.

Intuitively, when there are frictions in the date-2 negotiations, then the parties' investment incentives depend to a larger extent on their default payoffs, which in turn depend on the ownership structure. It is then no longer true that the party who values the public good most should be the owner, since the increased importance of the default payoffs implies that the investment incentives may be stronger if the party with the more productive investment technology is the owner, just as in the standard private-good case. Moreover, ownership by the party with the more productive investment technology can now be optimal even when it does not yield larger investment incentives, since larger default payoffs now imply a smaller deadweight loss in the date-2 bargaining stage.

Finally, one might argue that Besley and Ghatak's (2001) result should not be taken literally and that their main insight is that in the context of public goods the optimal ownership structure is not entirely driven by technological aspects. However, also in the context of private goods optimal ownership does not entirely depend on technological aspects. We show that in a straightforward private-good variant of our model the parties' relative valuations of the private good also have an impact on the optimal ownership structure, even in the standard case without bargaining frictions. The presence of bargaining frictions further strengthens the impact of the parties' valuations. Taken together, our results thus show that the qualitative differences between the public-good case and the private-good case are actually smaller than is suggested by the previous literature.

1.1. Related literature

Besley and Ghatak's (2001) model has been extended in several directions. Halonen-Akatwijuka and Pafilis (2009) study a repeated-game variant of Besley and Ghatak's (2001) setup and they find that the optimal ownership structure depends on the elasticity of investments.[10] Francesconi and Muthoo (2011) consider impure public goods (i.e., public goods that can be excludable) and they show that the optimal allocation of authority depends on technological factors. Halonen-Akatwijuka (2012) extends Besley and Ghatak's (2001)

[2] See e.g. Baird (2013, p. 59), who argues that we "do not live in this counterfactual world of frictionless bargaining," emphasizing the fact that negotiations sometimes fail. Williamson (1999, p. 316) points out that it is elementary "that frictionless ideals cannot be implemented" in practice.

[3] For more detailed information on Relationships Aotearoa, see their Annual Report 2013–2014.

[4] See New Zealand Herald, "Counselling service forced to shut doors this week," May 26, 2015.

[5] See TVNZ, "Anne Tolley tells counselling service to 'calm down' after it confirms closure," May 26, 2015.

[6] See Radio New Zealand, "Take over of Relationships Aotearoa clients," May 26, 2015.

[7] See the Supplementary Material for a detailed description of a similar real-world example in which bargaining frictions have ultimately led to a negotiation breakdown, involving the Northeast Resource Recovery Association (a not-for-profit organization that serves communities in New England) and the Vermont Agency of Natural Resources. In both cases aggrievement seems to have contributed to the bargaining breakdowns; note that the destructive effects of aggrievement have recently also been emphasized in the contracts-as-reference-points literature (see Hart and Moore, 2007, 2008; Halonen-Akatwijuka and Hart, 2013).

[8] The linear specification is a shortcut just like the traditional shadow costs of public funds (see e.g. the textbook by Laffont and Tirole, 1993) or the leaky-bucket model introduced by Tirole (1992). In the Supplementary Material it is demonstrated that related insights can also be obtained when there are negotiation costs which are not linear in the date-2 negotiation surplus.

[9] Our formalization of the date-2 bargaining frictions is thus similar to Schwartz and Watson's (2004) model of costly renegotiation. Laffont and Martimort (2002, ch. 9.2) and Kvaløy and Olsen (2015) study related models in which an agreement is enforced with a probability smaller than one. The fact that enforcement of contractual agreements may be imperfect in particular in less developed countries has also been stressed by Laffont and Meleu (2000).

[10] The fact that property rights models are sensitive to repeated interactions has also been demonstrated in the context of private goods by Baker, Gibbons, and Murphy (2002) and Halonen (2002).